

August 29, 2011

MEMORANDUM TO: Doug Weaver, Deputy Director
Licensing and Inspection Directorate
Division of Spent Fuel Storage and Transportation, NMSS

FROM: Pierre Saverot, Project Manager **/RA/**
Licensing Branch
Division of Spent Fuel Storage and Transportation, NMSS

SUBJECT: SUMMARY OF AUGUST 3, 2011, MEETING WITH
TRANSNUCLEAR INC., REGARDING THE REQUEST FOR
SUPPLEMENTAL INFORMATION FOR THE TN-LC PACKAGE

Background

Transnuclear Inc. (TN) submitted on June 7, 2011, an application for approval of the Model No. TN-LC package as a Type B(U)F-96 package. Staff performed an acceptance review of the application and advised TN that supplemental information was needed for staff to continue its review. TN requested this meeting to present its technical approach for the resolution of the Request for Supplemental Information (RSI).

Discussion

Staff had requested TN to provide 2-D depletion analyses or validation studies for the package's shielding evaluation because the SAS2H code is no longer supported by the developer. TN responded that the 2-D TRITON model of the SCALE 6 computer code, used in the application, calculates the source terms for three of the four payloads/baskets and that, when a comparison is made between the TRITON and SAS2H's calculated source terms for the fourth payload, the SAS2H model overpredicts the model by 10%. Staff requested to present a straightforward approach with benchmarks, analytical uncertainties, biases and calculated doses, particularly when results are close to the regulatory limit (9.12 mrem versus 10 mrem) while ensuring that it covers the range of the contents. TN said that it will provide the shielding calculations of the MP-197 package as a reference.

Regarding the requested clarification on partial or preferential flooding, to determine if the k_{eff} had been calculated with the maximum reactivity, TN said that (i) preferential flooding is not credible because the baskets are designed to drain freely, (ii) full-density water results in the most reactive condition, and (iii) it will provide the clarifications addressing partial or preferential flooding in the revised application.

TN will include in the revised application the missing impact limiter force-deflection curves for the spring, paralleling what was done for the TN-40 package application, and will check the thermal stresses on the bolted poison plates (their integrity is maintained under normal and accident conditions). Regarding the alternate weld joint configurations, TN will analyze them prior to implementation and compare them with the allowable stresses defined in the safety

analysis to ensure compliance with Part 71 requirements. Staff agreed with such an approach which ties to code performance. Staff also encouraged TN to provide more references, including manufacturer's data, for the radiation threshold and the temperature of retraction of the elastomer seal.

The meeting was closed to the public to discuss proposed responses to RSIs on (i) the closure lid separation and cask top flange interface, (ii) the demonstration of sub-criticality of the spent fuel in both normal and accident conditions of transport, (iii) the neutron shield resin tubes installed around the outer shell of the package, and (iv) the initial internal pressure for analyzing the fuel rods for the 30-ft end drop accident scenario.

The staff did not make any regulatory commitments at the meeting. TN committed to provide RSI responses, along with a revised application, on August 17, 2011.

Docket No. 71-9358
TAC No. L24543

Enclosure 1: Meeting Attendees
Enclosure 2: RSI responses (non proprietary)
Enclosure 3: RSI responses (proprietary, non-publicly available)

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ADAMS Package No.: ML112430381

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**Meeting Between Transnuclear Inc.
and the
Nuclear Regulatory Commission
August 3, 2011
Meeting Attendees**

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